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Name: _____

Natural Resources

Reading Passage

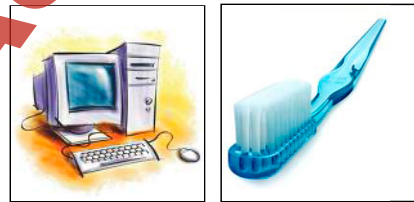
Over thousands of years man has made tools and things to use from stuff he finds in the world around him e.g. a stone axe, bow and arrow from wood – food and clothes from plants and animals.



Natural resources are the materials that are taken from nature to make man's tools and products. Land, water, air, oil, coal, metals, fish, wood and all life forms are all natural resources.



To make **products** man uses three kinds of **resources**:



a) **Renewable Natural Resources** are things like oxygen (O₂), water, plants, fish, trees, etc. As long as the ecosystems and **cycles** that **regenerate** these resources stay strong, these kinds of natural resources **can renew themselves**.

b) **Nonrenewable** natural resources once used do **not regenerate** fast enough to meet man's demand for them. Petroleum, coal, natural gas, **mineral ore**, etc. take over a million years to **regenerate**. When they are gone they are gone forever.

c) **Recovered** Natural Resources are materials that have been used and set aside e.g. a newspaper, a **glass jar**, **metal hub cap**, **plastic milk jug**, etc. Different kinds of recycling processing plants can recover e.g. paper, metal so that the materials can be used again. Using **recovered** natural resources **reduces** the rate that the natural resources are used. It also reduces the amount of energy that would have been used to **extract** the natural resource and so reduces that amount of **pollution**.

?? What are three kinds of resources? Write examples of each.

Name: _____

Natural Resources

After You Read

Below is a chart that shows some natural resources used to make some products. There is a column between those two headings where you can **decide** and **write** *renewable* or *nonrenewable* whichever describes the original natural resource.

Some Products Made From Natural Resources

Natural Resource	Renewable/Nonrenewable	Product/Service
Fish		Food
Silver		Jewelry, coins, ornaments
Trees		Paper, cardboard, fuel, furniture, houses etc
Coal		Fuel for heat. Powerhouses
Gas		Fuel
Bauxite ore		Aluminum cans, kitchen ware, car parts, parts of other machines, etc
Lobsters		Food
Gold		Jewelry, dental work, coins
Oil/Petroleum		Fuel for cars, machines
Copper		Electrical equipment, wire, coins
Platinum		Telecommunications equipment, jewelry
Diamonds		Used in machines, jewelry
Chromium		Treatment of leather, cars, stainless steel

ASSIGNMENT:

Compile a list of ten products that you often use at school and ten products often used at home. **Decide** from what each is made. Many have more than one natural resource, e.g., a pencil. **List** the **name** of the product, **used** and the **kind(s) of natural resource(s)** used to make it. **Share** your results with others.

Name: _____

Natural Resources - Where They Are Found

After You Read - Extension Activity

Read the following, think, write and **discuss** it with your group.

1. Over thousands of years the small island of Nauru built up large deposits of phosphates, a fertilizer made from deposits of bird droppings. It was the only natural resource the island had. It was beneath topsoil that the Nauruans used to grow food. The small population mainly ate products from their own farming and fish. A big fertilizer business from Germany discovered the fertilizer, explored it and found that it was very good for his country's farming. The big businesses of the world became interested and began open cut mining, too. For ninety years the mines exported the nonrenewable natural resource. The population worked the mines instead of farming. They imported food, fuel and other items from larger countries. The topsoil was removed. There was not enough left to farm. Finally all the phosphates were gone. When mining first began the population was about 2000 people. In 1997 it was 6000. Write short sentences about the following.

Discuss and/or write about:

- a) What benefit was the resource to the people? _____
- b) What could have been done to help keep the farms? _____
- c) What two natural nonrenewable resources were used? _____

Extension – Assignment

Research: to find out about Atlantic Cod Fishing in the last twenty years.

- a) Explain the effect that technological advances had on fishing the Grand Banks. _____
- b) How did this effect the lives and industries of the people who used to fish for a living. _____
- c) What do you think could be done to restore the renewable resource of fish stocks? _____

Name: _____

A Product's Life Cycle: Design

After You Read - Enrichment Extension

Consider what effect the following situations may have on the environment. Write sentences:

1. A manufacturer designed a larger paper cup with a plastic lid.

2. You will need to buy a new printer each time the ink runs out.

3. A small part of a **durable** product stops working. There is no new part to replace it.

4. With your group make a combined list on a display board of throwaway products.

5. ASSIGNMENT - EXTENSION

Design a product e.g. super skateboard, robotic wrestling machine, new type of pen, or your own choice. **Make** a one page labeled drawing of it. In a few sentences explain what it is and what it is used for.

On a separate page, **use** the topic headings on page 22. Write one or two sentences about each of those topics as they would tell about **your new product**. End with a short television or radio **jingle that promotes your product**.

Present your products in a mock TV promotion production to the rest of your class. Have an emcee and a panel of news people quiz you about your product.

Name: _____
A Product's Life Cycle - Exploration, Extraction and Processing

ACTIVITY 2 Extraction Simulation Activity:

Aim: To show the effect of open cut mining of topsoil and farming.

Materials needed:

2 plastic fish tanks, rocks and pebbles, potting soil, bottle of water, handful of grass seed.

Directions:

Place rocks and soil in both tanks.
 Place soil to about two inches over the rocks in one tank and none on the other.
 Sprinkle seeds over rocks.
 Sprinkle seeds over soil.
 Very gently water both.
 Place the tanks by a window for light.
 Water very lightly every other day for several weeks.

Reports

1. Write a short paragraph report about what was done and what you saw happen.

2. **Using the web, Google: Nauru Phosphates**

In your own words explain in a few sentences what happened to the phosphates and the soil of Nauru.

Name: _____
A Product's Life Cycle - Exploration, Extraction and Processing

Before You Read

1. Match the word on the left to the definition on the right. You may use a dictionary to help.

Sonar

This word means *harmful, not good* for either people or the environment. It could be a household cleaner that if not used properly could harm either a person or plants or animals if thrown away.

Blast furnace

An instrument that records the direction and power of earthquakes. It can measure underground rock locations

Impurity

This is an instrument that measures sound waves in water. It is used in finding submarines. It is also used to find fish stocks.

Technique

This is a smelting furnace where a blast of sizzling heat melts and joins minerals and separates minerals from other stuff around them. Smelting makes the minerals pure.

Hazardous

The method or way that is used to do something. "I like that guy's technique."

Seismograph

This means something that is not pure, or something that has matter which has to be removed to make it clean or pure.

Name: _____
A Product's Life Cycle - Distribution

After You Read - Extension Enrichment

1. List some ways that you think could reduce the amount of packaging that manufacturers place around products. Remember a consumer's demand is what a manufacturer thinks about.

2. Think about a shopping mall. List all the items that are not products to be bought by consumers including transport and loading areas. List jobs that people do in a shopping mall, including the kinds of jobs in the offices.

3. Explain what kind of industry *distribution* and *retailing* are (Primary, Secondary, tertiary). Why is the manufacturing of products important? Write your thoughts in sentences.

Name: _____
Waste Management

After You Read

1. Write "T" if the statement is true or "F" if it is false.

- _____ a) Waste *generated* means how old the waste is.
- _____ b) The more manufactured products there are the more waste is generated.
- _____ c) As the population grows waste gets smaller.
- _____ d) Waste management is the way man controls and disposes of waste.
- _____ e) Most solid waste comes from homes, businesses and schools.

Cloze

2. Fill each space with a word from the following list.

management	solid	generate	package
disposed	greater		populations

Garbage collected from a house is called _____ waste. It is all the stuff that is no longer wanted and needs to be _____ of. The more products people buy the _____ the waste is that they _____. As _____ grow so does the waste. Waste _____ means the way that man controls waste. Paper and cardboard are used by manufacturers to _____ products.

Name: _____

Waste Management - Landfill

After You Read

1. Write "T" if the statement is true or "F" if it is false.

- _____ a) A landfill site is a place to throw earth.
- _____ b) Sanitized means that something has been made clean and healthy.
- _____ c) Groundwater is water below the surface of the earth.
- _____ d) Layers of plastic and clay allow seepage to flow freely from the waste material placed above them.
- _____ e) Hazardous liquids seep through the soil into the groundwater unless stopped by layers of clay and plastic
- _____ f) All places in the world have sanitized landfill sites for waste management.

Cloze

2. Fill each space with a word from the following list.

prevent	sanitized	groundwater	pump
gases	clay	seeping	

Some landfill sites have no layers of _____ and plastic to stop the seepage of hazardous liquid waste materials from getting into the _____. A _____ landfill site is one that shreds and may recycle some of the waste. It also has layers of clay and plastic to _____ the hazardous liquids from _____ into any groundwater. Pipes _____ the liquid seepage away and other pipes allow _____ out.

Answer Key (cont)

Name: _____

Pg. 44

f c) F d) T e) T
posed, greater, generate, populations, management, package

Pg. 45

s means a hole in the ground. **Decomposing**-This means to break up into parts – to rot. Food will rot if left. **Seepage**- something that has leaked through small openings. Coffee drips slowly through tissue filters. **Shred**-This means to cut into little bits and pieces. **Layer**-This is a single thickness of something e.g. a cake, a cream one. **Sites**-This word means places where some things are – their location.

Pg. 46

b) shred c) seepage d) decomposing e) layer f) pits

Pg. 48

protects groundwater from seepage with plastic and clay layers. Old ones don't.

Pg. 49

f c) T d) F e) T f) F
groundwater, sanitized, prevent, seeping, pump, gases

Pg. 50

is means a special device or thing that can sift or strain out unwanted stuff from something else. Liquid can be run through a strainer to remove unwanted junk and make the liquid clear. **Emissions**-This is something that is sent out from a source. The burning fire sent out smoke, ash and nasty fumes. **Enclosed**-This means to shut in all around something. **Residue**-This means what is left after part of a whole thing is taken away. **Furnace**-This is an enclosed space in which heat is used as for example by burning fuel. **Vapours**-This is something like fog, mist or fumes floating in the air.

Pg. 51

ions b) residue c) enclosed d) furnace e) vapours f) filtered

Pg. 52

ste. Give energy.

Pg. 53

f) F e) T
farmers, expensive, designed, temperatures, metal, reduce, generates, small

Pg. 54

pesticides-These are used especially by farmers to destroy insects and other vermin. **Conditions**-Some chemicals change the place they are in changes (air, water, soil) or when they are placed with some other kind of chemical. They can change from a solid to a liquid or gas, or burn or fume to the change and become dangerous. **Corrode**-This word means to eat away at something. Usually it is used for metals that can cause metal to degenerate, fall apart because of the kind of chemical it is. Rust remover also eats away at metal. **React**-This means that something is likely to explode when not managed in the right way. **Fatal**-This means causing that can result in death. It can be caused by an accident, illness or some toxic material or gas.

Pg. 54

b) conditions c) pesticide d) fatal e) corrode

Pg. 55

s save environment.

Pg. 56

f c) F d) T e) T
ed, processes, chemicals, handled, burn, fatal, regulations, dump, seepage

Pg. 57

Reduce-This means to make something smaller e.g. the price of something or the amount there is of something. **Recycling**-This means to use something again and again. **Replacing**-This means to use something else instead of what is being used. **Reprocessed**-This means to have something go through a set of changes again. Do a set of stages to remake something. **Toxicity**-This means the quality of being poisonous-something that is dangerous and can harm or kill either life or the environment.

Pg. 58

y b) reprocessed c) recycled d) reduction e) replaced

Pg. 59

energy saved, waste reduced.

Pg. 60

f c) T d) F
size, choose, disposable, products, metal, plastic, glass, reprocessed